Testimony of

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on

Universal Service Reform

Before the

Committee on Energy and Commerce

Subcommittee on Communications Technology and the Internet

United States House of Representatives

Washington, D.C.

November 17, 2009

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Good Morning. I would like to thank Chairman Boucher, Ranking member Stearns and members of the subcommittee for the opportunity to appear before you on this very important matter. We are economists at Stanford University and the University of Nevada, Las Vegas who teach and conduct research in the areas of microeconomics, regulation and competition policy. Neither of us is representing any entity regarding universal service – the views expressed here today result solely from our academic research and government service. Both of us have studied universal service issues since we served as economists at the Federal Communications Commission in the mid-1990s. Since that time, one strand of our research has focused on the effects of universal service on consumers and competition. To that end, we are very pleased that you have put forth legislation to reform the current system.

Our view is that universal service can be a very important societal goal; connecting people to the voice and data information networks can have profound impacts on people's lives in terms of safety, productivity, and participation in society. As economists we are interested in providing such connectivity in as efficient a manner as possible. It is important that policy makers consider carefully all of the costs and benefits associated with a universal service program when determining the extent of the program, how and to whom subsidies are dispersed, and the manner in which revenues used to fund the program are raised.

We are encouraged that the current discussion draft includes provisions that likely increase the efficiency of the universal service program. We believe however that further improvements are available; and that such improvements could substantially decrease the cost of the program without sacrificing coverage or quality. With these changes either more consumers can be served without increasing the cost of the program or consumers can benefit from lower prices.

Our comments today will address the components necessary for a well-designed universal service program. Such a program raises revenues in a way that minimizes distortions, minimizes the cost of obtaining the desired outcomes, and determines program size based on a careful examination of the costs and benefits of the program. Our comments will touch upon these components and how the proposed legislation addresses them. Then we offer suggestions on how the universal service program and proposed legislation could be improved to achieve the same or greater levels of connectivity at a much lower cost to society.

Our main points are as follows:

- Universal service can serve an important societal goal.

- Reducing the tax rate by increasing the revenue base so it includes more services, holding the fund size constant, is good policy.
- The fund size should be controlled to minimize distortions caused by the taxes, or contributions, used to fund the programs.

- Lifeline and linkup may help increase low-income penetration

- Subsidies should go to consumers, not companies, to increase competition and choice

- Companies should not be insulated from competition and should not receive subsidies if they are not the most efficient service provider

- Subsidy auctions should be used pervasively to increase competition, consumer choice, and to drive down the cost of the program.

REVENUE RAISING

The charges used to raise money for universal service may not be "taxes" in the legal sense of the word, but to an economist, they are a form of taxation and the large public finance literature on taxation provides important lessons for understanding the impact of fees or surcharges or whatever else they might be named. Taxes distort consumer behavior because they change the relative prices of goods and services. This distortion has been shown to be very costly – on the order of 1/3 more than the revenue raised (Ballard, Shoven and Whalley, 1985). Economics tells us that the best ways to minimize these distortions are to have a low tax rate, which can be achieved by keeping the size of the program relatively small, and the deriving revenues from a base that is broad.

While some may object to taxing phone and/or broadband to fund phone and/or broadband, it is important to note that the payers of the tax and the recipients of the subsidy are likely to be different people or different groups. However, because some of the people receiving subsidies will also pay taxes, they see the price of some services increase. This counteracting effect reduces program effectiveness. Hausman et al. (1993) found that taxes on long-distance, that were used to cross subsidize basic subscriptions to the network caused a substantial number of households to discontinue telephone services altogether. These concerns lead us to conclude that using general tax revenues would be the best way to fund universal service – the base is broad and it would not add significantly to the percentage tax burden. While such an approach may not be politically feasible at this point it time, we feel that it should be considered.

We are encouraged that that proposed legislation broadens the base from which revenues are raised from interstate revenues, to a system that assesses contributions based on revenues derived from the provision of intrastate, interstate and foreign communications services; a system based on telephone numbers and network connection; or a combination of these two approaches. Broadening the base from which contributions are derived reduces the costs associated with raising revenues, and, holding program size constant, is good policy. The changes in the tax base proposed in the discussion draft also eliminate arbitrage problems that arise from arbitrary interstate/intrastate distinctions (Rosston and Wimmer, 2000).

There will, however, remain incentives to categorize services so that they do not qualify to pay universal service fees. However, with a lower fee, such incentives are reduced. Decreasing the amount of revenues required to fund the program also reduces the distortions associated with collecting revenues. Decisions that affect the size of the program not only affect the amount of money that needs to be raised, but also affect the distortions associated with the tax – the rate of loss caused by tax distortions increases more than the increase in the size of the tax. It is therefore important to design a program that minimizes the cost of achieving its goals, and that policy makers carefully consider the benefits and costs associated with different aspects of the program.

The discussion draft addresses several issues that could have a major impact on the size of the universal service fund. For example, the discussion draft declares broadband to be a universal service, uses wire center averaging rather than study-area averaging to determine high-cost subsidy amounts, and eliminates the "parent trap," which requires that when a carrier acquires telephone exchanges from an unaffiliated carrier its universal service support does not change. Each of these proposed changes has the potential to increase the size of the universal fund. We encourage policy makers to evaluate the effects each of these changes has on the fund size and how they affect the efficiency of service delivery. Some of these proposed changes have the potential to compound harm by increasing costs and decreasing efficiency.

The discussion draft proposes to institute a cap on the size of the funds, although the above-mentioned items are not included in this cap and there may be other mechanisms that increase the size of the fund. Finally, the discussion draft proposes to begin using auctions to determine high-cost subsidies. This last proposal, if properly implemented, has the potential to improve dramatically the efficiency of the high-cost universal service program.

EFFICIENT SERVICE PROVISION

Universal service, in theory, means ensuring that people who would not otherwise connect to the network do so because of a government program. For this testimony, we focus on how well the current, and proposed, low-income and high-cost programs contribute connecting people who would not otherwise connect.

Low-Income Support

The primary reason that a household does not connect to the communications network is because the household is not willing or able to pay as much for telecommunications services as the price charged. A subsidy reduces the household's cost of subscribing, and hence increases the likelihood that a household connects to the network. The FCC's Lifeline and Linkup programs provide subsidies to low-income households in an attempt to increase subscription rates among poor households. These programs may be considered effective when the subsidies are given to households who, in the absence of the subsidy, would not be connected to the network. Conversely, the program does less to contribute to universal service when subsidies are provided to households who would connect to the network even if the subsidies were eliminated. In such a case, the low-income subsidy does not increase universal service – it simply results in a transfer payment.

Empirical research has shown that local telephone service is extremely inelastically demanded. This means that subscription decisions are not very sensitive to price. It would take a large increase in price to cause people who were subscribing to the network to drop telephone service, or a large decrease in price to get people to subscribe. As a result, subsidy programs are not expected to have a large effect on subscription decisions – people generally place a high value on telephone service and would subscribe in the absence of a subsidy (at least in the relevant range of prices).

Our recent research (Ackerberg, Riordan, Rosston and Wimmer, 2009) examines the effectiveness of the Lifeline and Linkup programs. We find that while they are relatively more sensitive to price changes than the general public, low-income households' demand for telephone service responds very little to a reduction in price. This finding indicates that Lifeline and Linkup programs have a small effect on the penetration rate of low-income households. Connecting an additional low-income household using the Lifeline program, which reduces a household's monthly rates, is expensive. Conversely, we find that Linkup program, which provides a subsidy that reduces the initial charge for connecting to the network, is more cost effective than the Lifeline program. We suspect that is the case because the Linkup program, by definition, targets households who are not currently connected to the network. In addition, it helps households avoid the high up-front costs associated with connecting to the network. This is particularly important for households that face severe credit constraints and relocate frequently. While the discussion draft mentions Lifeline and Linkup, it does not propose any

changes. The results of our research indicate that moving money from the Lifeline program to the Linkup side has the potential to increase the penetration rate of low-income households without increasing the program size.

Representative Matsui has introduced a bill that would extend the Lifeline and Linkup programs to cover broadband service. We think that such a program has the potential to increase subscription rates among low-income populations, although more study is needed before any firm conclusions can be drawn. We expect that the FCC's Broadband Report will provide more information about this when it is released early next year. As in the case of basic telephone service, the effectiveness of a broadband program depends on low-income households' elasticity of demand for broadband service and the subsidy's size. We are not aware of any recent studies that provide estimates of these elasticities. Research that focused on low-income adoption rates under current rates, and possibly surveys of willingness to pay for broadband service, would provide guidance on how to design a broadband Lifeline program. The Matsui Bill has the potential to provide an important venue for acquiring more information on the ability of a Lifeline program to increase broadband penetration rates. It would be extremely useful to design program evaluation into the proposal for any broadband Lifeline and Linkup program to ensure effective use of subsidy money.

High Cost Support

The goal of the high cost fund is to ensure that customers living in rural areas pay prices for telecommunications services that are reasonably comparable to prices paid by customers in urban areas. To accomplish this goal, the high-cost fund subsidizes telecommunications companies that provide services in these areas. The majority of these subsidies are given to the incumbent local exchange carriers (ILEC). The discussion draft includes several proposals that appear to insulate the ILECs from competition for subsidies, which, in turns, insulates them from competition in general. For example, the discussion draft places a cap on the size of the total amount of universal service support that is based on the total number of ILEC working loops. While the cap is allowed to increase if the number of loops grows, it is not allowed to fall if the number of ILEC loops fall. In addition, the discussion draft proposes that subsidies be determined through a competitive bidding process. This process, however, is only to determine the amount of subsidy provided to wireless carriers. ILEC subsidies will be determined using alternative measures that are generally not affected by competition.

The Telecommunications Act of 1996 opened telecommunications markets to competition, with the goal of providing customers options when choosing telecommunication services. In urban areas, customers can choose among several technologies, such as landline, wireless and IP, for their telecommunication needs. Rules that favor a particular carrier or technology run counter to the goals of the Telecommunications Act. In general, high cost support programs should be competitively neutral, allowing the rural customers to determine the services that meet their telecommunications needs. We believe that this could best be achieved by distributing subsidies

to rural customers themselves, not the companies that serve them. Extending a program like Lifeline to rural customers could accomplish this goal. Such an extension has the additional benefit of allowing that subsidies be based on the customer's ability to pay as well as the cost of providing service. In the event that such a proposal is too radical, and is not politically feasible, we believe that a high-cost program that continues to subsidize companies must be competitively neutral and have built-in mechanisms that allow the size of subsidies to fall if costs fall. Our comments below explain how the proposals contained in the discussion draft can be altered to achieve this important goal.

It costs more to provide terrestrial telecommunications service in rural areas because of longer loop lengths and lower household densities. Governments have instituted a number of different programs to reduce the prices paid by rural consumers, and to ensure that telephone companies serving rural areas remain profitable. Rural high-cost subsidies come in many forms in the current system – directly from the federal universal service fund (USF), directly from states, indirectly through access charges and indirectly through implicit cross subsidies internal to the providers. Because of the complexity of the system and the entrenched interests in maintaining the current systems, it may be politically difficult to modify it to improve efficiency. We believe that some small changes in the proposals in the discussion draft will result in rural customers receiving improved services for less money; possibly substantially less money.

One goal of regulation should be to have service provided at the lowest cost possible to minimize the need to raise revenue. It would be wonderful to know the true cost of the most efficient provider to deliver service to each household across the country, and to have a time path of the costs for the next ten or twenty years. That is unrealistic, so we need to rely on other mechanisms to reveal the best information about those issues.

The rural high cost fund has increased substantially over the past several years. One explanation is that new CETC's have begun to provide service and to receive subsidy payments. These companies have begun to provide service and to make money doing so because they are able to provide the service at a cost below the value of the subsidy plus the customer charges. As a result, some have argued that they do not merit such a high subsidy. This indicates that there may be room to lower the subsidy payments.

The other side of the increase in subsidy payments is that the new CETCs have taken customers away from the traditional incumbent wireline carriers, yet the subsidy payments to incumbent wireline carriers has not diminished. While some may view that there is an implicit contract or need for a traditional Carrier of Last Resort, the competition indicates that there may be room to provide service more efficiently.

The discussion draft has a plan to use auctions for subsidy payments in limited circumstances. Subsidy auctions have been under consideration for nearly 15 years at the Commission, but have never been undertaken. However, subsidy auctions can be an effective tool for inducing

providers to compete to provide service at a low cost to taxpayers. In essence, the government can use auctions to harness the power of market incentives to ensure that rural customers get service and that the service is not expensive for them or for urban customers who provide the funds for rural subsidies.

While the current discussion draft makes good progress by mandating subsidy auctions in certain circumstances, there is much more potential gain from more extensive use of auctions. In particular, the discussion draft limits subsidy auctions to situations where there are three or more wireless providers willing to compete for a subsidy to provide service. In those situations, there are likely to be a total of four or even five or more competitors when one considers the telephone and cable companies that could be or already are serving households in those areas. Instead of having auctions limited to times when there are three or more wireless carriers, and limiting the subsidy auction to the wireless carriers, it would be much better to use subsidy auctions more broadly.

Competition from a variety of sources is important. The discussion draft makes no mention of cable or other wireline competitors. Cable and other should be able to compete for subsidy dollars, to the extent that they are necessary to induce service provision. To the extent that companies are willing to provide the required service without subsidy dollars, there is no need to provide subsidy dollars to any company. Kyle McSlarrow testified here two and a half years ago that cable broadband was then available to 94% of U.S. households (McSlarrow, 2007) Eisenach (2009) presents analysis showing that cable systems are making broadband service to a large percentage of high cost households without receiving any subsidy. Cable companies that have upgraded their networks to provide broadband and telephone service without a subsidy implies that no other company should get a subsidy for serving customers in those areas. In these cases, if there is a subsidy auction, the cable company should be able to participate in the same manner as others, and if it is a low-cost efficient provider, it will bid a low or zero subsidy. This competition will benefit consumers in all areas – those receiving competitive service and those funding universal service subsidies.

In particular, it would be more efficient to have subsidy auctions when there are two or more providers of any type and to include all providers in the subsidy auction. Such expansion of the subsidy auction plan could help drive down subsidy payments substantially while protecting consumers. The auctions with three or more wireless carriers (those contemplated in the discussion draft) would be more competitive because the wireless carriers would be forced to compete with wireline carriers as well. More importantly, auctions would be used in many more geographic areas, providing downward pressure on subsidies and the size of the universal service fund which would be good for all consumers – urban and rural.

At the same time, consumers in subsidy auction areas would continue to receive service at the mandated rates since the auctions would be designed in a way that protected rate payers. While companies expecting to receive high or excessive subsidies are likely to object to the additional

competition and potential for reductions in subsidies, competition through subsidy auctions is in the interests of rural and urban consumers. The most important feature of expanding the auctions is that incumbent local exchange providers would be subject to competitive discipline in the amount of subsidy that they receive for providing service. If it truly costs a lot of money to serve households, companies serving consumers in high cost areas will end up with relatively high subsidy payments through the auction system. But if there are ways to serve the customers more efficiently, the auction system will reveal it. Subsidy auctions are a way for regulators to induce firms to more truthfully reveal their costs of service and to reduce the cost of service. The current system and the system in the current draft does not have these critical features – it does not provide an incentive to reduce costs nor to reduce the overall size of the universal service fund. Any system that exempts the incumbent providers from competition and insulates their subsidy payments will increase costs and decrease efficiency, threatening the efficacy of the universal service program.

Obviously, the design of the subsidy auctions needs to be considered carefully, but the experience with auctions in other countries provides some guidance for how to implement these types of auctions effectively (Wallsten, 2009). It would be relatively easy to implement subsidy auctions in a short period of time and in a competitively neutral manner because of substantial advances in auction theory and applications. Many prominent auction economists have examined subsidy auctions and more general procurement auctions and agree that ubiquitous subsidy auctions would increase efficiency substantially. In fact, we were part of a group of 71 auction and telecommunications economists who submitted comments to NTIA and RUS encouraging them to use auctions to award the broadband stimulus grants (71 Concerned Economists, 2009). The same logic in those comments applies here – competition will benefit consumers by driving down costs.

The U.S. should implement extensive use of subsidy auctions. The nature of the problem allows such auctions to be rolled out over time to test and modify the auction design. The FCC could designate some areas for auction immediately. For example, the first areas designated for auction could be areas where there are two or three providers in addition to the incumbent local exchange provider. It would be important to ensure that all providers receiving subsidy be put on notice that the FCC planned to institute auctions more broadly over a short period of time. As Congress did with spectrum auctions, time limits for the implementation would be useful to insulate the FCC from political pressure to delay auctions.

The FCC implemented its simultaneous multiple round auctions for spectrum licenses with a gradual roll out over a short period of time. In the Omnibus Budget Reconciliation Act of 1993 (OBRA), congress gave the FCC a very short timeline for implementing auctions. The FCC started with a relatively straightforward auction of 10 nationwide narrowband PCS licenses less than six months from passage of OBRA '93. After conducting the nationwide narrowband PCS auction, the FCC modified its software and ran a second auction for 30 regional narrowband PCS licenses. Finally, about six months after its first auction, the FCC used the refined auction

software and design for the PCS Broadband A & B block auction and has continued to use that system (with modifications) for many subsequent auctions (Kwerel and Rosston, 1999). Other countries have also used the FCC auction system as the basis for their spectrum auctions. The idea of a short time frame for starting auctions with mandated times for broader implementation could work well for subsidy auctions as well.

Universal service money should be to connect consumers in an efficient manner, not to provide an unnecessary subsidy to companies. In those cases where the incumbent provider is the most efficient provider of service, it will bid the lowest subsidy in the auction and get the subsidy money and serve the customer. Universal service reform has the chance to reward efficient local telephone companies that are efficient and serve customers, and to save consumers money if there are other more efficient providers.

If there is any view that there is some implicit contract with the incumbent providers, we believe that should be treated separately. For example, it might be the case that the incumbent could be guaranteed a declining fixed annual payment for five more years regardless of its success in the market or auction. That way, the payment would not distort competition and there would be a set end to the implicit contract. Such a payment would depend on a detailed accounting of costs, revenues, dividends, other transactions, and an evaluation of any implicit contract.

There are other provisions of the discussion draft that have the potential to increase the size of the universal service fund, possibly without any benefit to consumers. The elimination of the "parent trap" provides an incentive for a large company that does not qualify for universal service funding to sell exchanges to small companies that do. Currently, such sales would take place if the smaller company were more efficient, and the sales price would be lower to reflect the lack of a subsidy. Under the discussion draft, there would incentives to sell to less efficient small companies and to increase the size of the universal service fund, both of which would be bad for consumers. The move to a wire center basis for funding also has the potential to increase the size of the fund. We would be less concerned with these issues if the bill adopted a comprehensive subsidy auction that put all of the subsidies up for competition.

The major concern we have overall is that there not only be mechanisms to reduce the growth of the fund, but that there also be mechanisms to make the fund as small as possible while still satisfying the goal of connectivity. We think that the current bill makes a very good move to broadening the base of support to minimize distortion and arbitrage incentives. We also think that it could be substantially improved if it were to set up a framework to allow competition to reduce the size of subsidies.

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Biographies

Gregory L. Rosston is Deputy Director of the Stanford Institute for Economic Policy Research and Deputy Director of the Public Policy program at Stanford University. He is also a Lecturer in Economics and Public Policy at Stanford University where he teaches courses on competition policy and strategy, intellectual property, and writing and rhetoric. Dr. Rosston served as Deputy Chief Economist at the Federal Communications Commission working on the implementation of the Telecommunications Act of 1996 and he helped to design and implement the first ever spectrum auctions in the United States. He co-chaired the Economy, Globalization and Trade committee for the Obama campaign and was a member of the Obama transition team focusing on economic agency review and energy policy.

Dr. Rosston received his Ph.D. in Economics from Stanford University specializing in the fields of Industrial Organization and Public Finance and his A.B. with Honors in Economics from University of California at Berkeley. Dr. Rosston has written extensively on the application of economics to telecommunications issues and is the co-editor of two books relating to telecommunications. He has served as a consultant to various organizations including the World Bank, and as a board member and advisor to high technology, financial, and startup companies in the area of auctions, business strategy, antitrust and regulation. He also serves as an advisory board member for Sustainable Conservation and the Nepal Youth Opportunity Fund.

Bradley S. Wimmer is an Associate Professor of Economics at the University of Nevada, Las Vegas. Dr. Wimmer has published numerous articles on the effects of regulation and deregulation on market outcomes in telecommunications. Dr. Wimmer served as a senior economist at the Federal Communications Commission from 1995 to 1998. During his time at the Commission, Dr. Wimmer worked extensively on issues related to the implementation of the Telecommunications Act of 1996, including universal service. While at the Commission, Dr. Wimmer served as the Acting Chief Economist of the, then named, Common Carrier Bureau, which was in charge of overseeing interstate telecommunication services. Dr. Wimmer received his Ph. D. in Economics from the University of Kentucky in 1992 specializing in the fields of Industrial Organization and Labor Economics. He received his BA in economics from Coe College, located in Cedar Rapids, IA in 1988.